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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,620	03/08/2004	Yunshan Zhu	SNPS-0558	2817

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SYNOPSYS.COM  
c/o PARK, VAUGHAN & FLEMING LLP  
2820 FIFTH STREET  
DAVIS, CA 95618-7759

EXAMINER

DIMYAN, MAGID Y

ART UNIT PAPER NUMBER

2825

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/796,620

Applicant(s)

ZHU ET AL.

Examiner

Magid Y. Dimyan

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

1. This pertains to Application No. 10/796,620 filed 08 March 2004. Claims 1 – 25 remain pending in this Application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 – 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding independent claims 1, 9, 17 and 25, the phrase "the generator may contain" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1, 5 – 7, 9, 13 – 15, 17, 21 – 23 and 25 are rejected under 35

U.S.C. 102(e) as being anticipated by Pub. No. US 2005/0102596 A1 to Hekmatpour.

7. Referring to claims 1, 9, 17 and 25, Hekmatpour discloses a method (claim 1), a computer program (claim 9) and a system (claims 17 and 25) for verifying whether a trace can be produced by a generator (see Fig. 2, blocks 190 and 136; paragraphs 0026 and 0027), comprising: (a) receiving a specification for the generator, wherein the generator is a finite state machine (FSM) that defines a set of inputs and outputs, and wherein the generator may contain parametric inputs to model no-determinism (see Fig. 2, blocks 186, 190, 132; paragraphs 0052, 0054 and 0057); (b) receiving traces, wherein the trace is a sequence of assignments of non-parametric inputs and outputs for the generator, and wherein the trace does not contain assignments of parametric inputs (see (a) above, as well as paragraphs 0060 and 0061); (c) using the specification to build a data structure that can be used to determine if a non-parametric input and output are consistent with the current state of the generator (see (a) above, as well as paragraphs 0063 and 0067); and (d) verifying elements of the trace, wherein verifying a given element involves using the data structure to determine if there exists any parametric input assignment that causes a match between non-parametric inputs and outputs of the generator with the ones specified in the given element of the trace (see Fig. 2, blocks 162, 170; paragraphs 0066 and 0068). Thus, Hekmatpour teaches all the claimed limitations of claims 1, 9, 17 and 25.

8. As per claim 5, see Fig. 2, blocks 136 and 140; paragraph 0054, which cite the trace being produced by a simulation of the system under test, as claimed.

9. Regarding claim 6, see paragraph 0032, which recites classification and regression tree algorithms (i.e., binary decision diagrams) in the analysis of the data structures.
10. Pursuant to claim 7, see Fig. 2; paragraphs 0024, 0054, 0055 and 0057, which teach the claimed elements pertaining to invalid traces.
11. Claims 13 and 21 contain the same limitations as claim 5, and thus the same rejections apply.
12. Claims 14 and 22 contain the same limitations as claim 6, and thus the same rejections apply.
13. Claims 15 and 23 contain the same limitations as claim 7, and thus the same rejections apply.

### ***Allowable Subject Matter***

14. Claims 2 – 4, 8, 10 – 12, 16, 18 – 20 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and rewritten to overcome the 35 U.S.C 112 second paragraph rejections cited above.
15. The following is a statement of reasons for the indication of allowable subject matter: prior art does not teach the additional claimed limitations pertaining to sequentially deterministic and sequentially non-deterministic generators.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PAUL DINH  
PRIMARY EXAMINER

Magid Y Dimyan  
Examiner  
Art Unit 2825

myd  
21 June 2006

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